

COMPRESSOR DEFINITION

Designation	ER U280HSP
Nominal Voltage/Frequency	200-240 V 50 Hz
Engineering Number	513300685

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	200-240 / 50	[V / Hz]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	RSCR		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	187 to 255 V	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	Static	187 to 255 V	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	6.99	[cm³] (0.427 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	17.600	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.86	[kg] (17.33 lb.)
5 Nitrogen charge	-	[kgf/cm²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	200-240 V 50 Hz ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17B3	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	5(330)	[μF(VAC minimum)]
5 Motor protection	4TM276NFBYY-53	
6 Start winding resistance	7.63	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	12.94	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	EAC	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F))	
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
730	184	214	157	0.98	4.15	4.65	1.17	1.36

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32				(Condensing temperature 35°C (+95°F))				
@220V50Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	425	107	125	111	0.88	2.41	3.84	0.97	1.13
-30	(-22)	568	143	166	123	0.90	3.22	4.60	1.16	1.35
-25	(-13)	745	188	218	137	0.93	4.23	5.43	1.37	1.59
-20	(- 4)	961	242	282	152	0.97	5.47	6.32	1.59	1.85
-15	(+ 5)	1219	307	357	169	1.02	6.96	7.25	1.83	2.13
-10	(+14)	1523	384	446	186	1.08	8.73	8.20	2.07	2.40

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static				(Condensing temperature 45°C (+113°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	400	101	117	114	0.88	2.26	3.52	0.89	1.03
-30	(-22)	533	134	156	129	0.91	3.02	4.13	1.04	1.21
-25	(-13)	704	177	206	145	0.95	4.00	4.85	1.22	1.42
-20	(- 4)	916	231	268	162	1.00	5.21	5.65	1.42	1.66
-15	(+ 5)	1173	296	344	181	1.06	6.69	6.51	1.64	1.91
-10	(+14)	1478	372	433	200	1.13	8.47	7.40	1.87	2.17

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	389	98	114	115	0.89	2.20	3.40	0.86	1.00
-30	(-22)	506	127	148	132	0.92	2.87	3.81	0.96	1.12
-25	(-13)	662	167	194	151	0.97	3.76	4.36	1.10	1.28
-20	(- 4)	863	217	253	171	1.03	4.91	5.00	1.26	1.47
-15	(+ 5)	1110	280	325	193	1.10	6.34	5.73	1.44	1.68
-10	(+14)	1408	355	413	216	1.18	8.07	6.52	1.64	1.91

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	411	104	121	110	0.88	2.33	3.75	0.94	1.10
-30	(-22)	504	127	148	131	0.92	2.85	3.91	0.99	1.15
-25	(-13)	638	161	187	153	0.97	3.62	4.22	1.06	1.24
-20	(- 4)	819	206	240	177	1.04	4.66	4.66	1.17	1.36
-15	(+ 5)	1049	264	307	202	1.13	5.99	5.20	1.31	1.52
-10	(+14)	1333	336	391	229	1.23	7.64	5.82	1.47	1.70

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 40° up + 45° to Back		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 40° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		